

MOUNT LORETTE, SPRING 2014

With notes on the Beaver Mines, Alberta and Steeples, BC sites

Peter Sherrington

Research Director, Rocky Mountain Eagle Research Foundation



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Summary and highlights

Following a reconnaissance count at the site in 1992, this was the 22nd consecutive year that a systematic spring count has been held at Mount Lorette. It is the 6th consecutive extended (as opposed to complete) count at the site and, as started in 2011, the count period was again March 1 to April 22. The combined species count of 2426 birds was the third highest since 2006, as was the Golden Eagle count of 2219, but it should be noted that all counts from 1993-2006 exceeded these totals. All species with the exception of Osprey, Rough-legged Hawk, American Kestrel and Peregrine Falcon occurred in significantly lower than average numbers. Poor weather in March resulted in the movement of most species being later than average and a monthly combined species total that was 34.8% below average. The April 1-22 count by contrast was 29% above average and the highest Golden Eagle count occurred for the first time in April when 356 birds moved on April 1. A new 17 day reconnaissance count at Beaver Mines, SW Alberta, produced 1092 migrant raptors of 10 species including 853 Golden Eagles. A fifth extended 40-day spring reconnaissance count at Steeples Ridge in BC on the western flanks of the Rocky Mountains near Cranbrook, BC produced 460 migrants including 140 Bald Eagles and 275 Golden Eagles, and established new high counts for Turkey Vulture, Osprey and American Kestrel.

Introduction

The Mount Lorette site is located in the Kananaskis Valley in the Front Ranges of the Rocky Mountains (50°58'N 115°8'W) 70 km due west of Calgary and immediately north-east of the Nakiska Ski Hill on Mount Allan. At this point the valley trends north-south and cuts obliquely across the NW-SE oriented trend of the Front Ranges. To the east of the observation site the Fisher Range has an average elevation of about 2500m with Mount McDougall rising to 2726m. Mount Lorette itself is 2487m and is a geological continuation of the Fisher Range across the Kananaskis Valley to the NW. To the west the mountains of the Kananaskis Range are somewhat higher and include Mount Kidd (2958m), Mount Bogart (3144m) and Mount Allan (2819m). The observation site is in a cleared area on the valley floor known as the Hay Meadow at an elevation of 1433m. The site gives 360 degree views of the surrounding mountains and allows monitoring of raptors moving along the mountain ridges to the east and west, and especially those crossing

the valley between the north end of the Fisher Range and Mount Lorette. The site is unique in that it allows observation of approximately the same high percentage of a population of migratory Golden Eagles both in spring and fall at exactly the same site, which has in the past been occupied for up to 190 days in a year. When downslope cloud obscures these mountains an alternate site at Lusk Creek, 13km NE of the Hay Meadow site, is used to observe birds moving along the westernmost foothills ridge that have been displaced to the east from the Front Ranges. Birds seen here when active observation is occurring at Hay Meadow are not included in the official count.

Migrating Golden Eagles were first seen moving over Mount Lorette on March 20, 1992, and the first extended (33 day, 280 hour) count was conducted the following fall and yielded 2661 migrant raptors of which 2044 were Golden Eagles¹. Until 2005, full-season spring counts were conducted annually at Mount Lorette, with an average time spent at the site of the 15 counts of 79.9 days (863.5 hours). From 2006 to 2009 the principal fall observation site was moved to the Piitaistakis-South Livingstone location close to the Municipality of Crowsnest Pass in SW Alberta, during which time extended comparison counts were conducted at Mount Lorette during the main period of Golden Eagle migration. The Lorette counts in 2006, 2007 and 2008 were conducted between March 01 and April 15 and comprised 44 days, 46 days and 48 days of active observation respectively. **Table 2** summarizes all the spring counts since 1993 conducted at Mount Lorette to date. It is clear that the counts conducted in 2008, 2009, 2010 and 2012 are anomalously low compared to other counts. The combined species count for the years 2008, 2009, 2010 and 2012 (with comparison for Golden Eagle in parentheses) are only 39% (39%), 30.5% (29.4%), 40% (43.7%) and 37.7% (33.3%) respectively of the average for the counts from 1993 to 2007 and 2011. By contrast the fifth lowest spring count at the site in 2007 is 68.2% (65.6%) of average. The anomalous nature of these four counts probably results from a combination of poor weather conditions and, in some cases, observer inexperience, but whatever the cause it seems prudent at this time to exclude these counts from the statistical comparisons with subsequent counts.

The spring 2011 count was conducted between March 01 and April 22, one week longer than those from 2008-2010, and all subsequent counts have been conducted during the same time period. **Table 3A** summarizes the counts conducted at Mount Lorette for the period March 1 to April 22 1973-2014. **Table 3B** excludes the anomalously low counts of 2008, 2009, 2010 and 2012 on which the data variances of the current count (number, median passage dates and age ratios) are based unless otherwise stated.

Once again because of logistical considerations no count was held this season at the Piitaistakis-South Livingstone site, and so this report concerns only the count at Mount Lorette, a new reconnaissance site at Beaver Mines in SW Alberta and the extended reconnaissance count conducted by Vance Mattson at the Steeples site on the western flank of the Rocky Mountains in British Columbia.

At Mount Lorette observers spent a total of 48 days (526.25 hours) of a possible 53 days at the site between March 01 and April 22, the days and hours being 3.3% and 4.0% below average of valid counts respectively. A new reconnaissance count was conducted by Peter Sherrington at Beaver Mines over 17 days (78.1 hours) between March 18 and April 17. At the Steeples reconnaissance count in BC Vance Mattson spent 40 days (142.3 hours) of a possible 53 days at the site between March 1 and April 22. This is the fifth consecutive spring season that this count has been held.

Mount Lorette, Alberta

Weather

Table 6 summarizes the weather data from this season's count. During the count a total of 4 days were completely lost to adverse weather: very low temperatures with wind chills in the -40s on March 3, and snow obscuring all ridges on March 20, 21, and April 18. A further four days were significantly shortened because of the weather: March 1 because of extreme cold, and March 17, 31, and April 16 because of extended periods of snow. At the start of the count there was between 75 and 100 cm of accumulated snow on the ground at the site. A total of 13 active observation days (26.5%) experienced snow, 2 days had flurries (4.1%), 2 had rain (4.1%) and 1 day experienced both rain and snow (2%). In addition a further 7 days had fresh overnight snow at the site, although no further snow fell during the hours of observation. Overall 18 active observation days (36.7%) experienced some form of precipitation (excluding overnight snow). Compared to the average of the last three years which used the same count period, snow days and precipitation days were 37.2% and 25.8% below average respectively.

The highest maximum temperature was 14°C on April 14 and the lowest maximum was -21°C on March 1 and 2; the highest minimum temperature was 8°C on April 8 and the lowest minimum was -31°C on March 2. The temperature failed to rise above freezing on 12 active days (24.5%): 11 in March and 1 in April, and prolonged below normal temperatures were experienced March 1- 6, and March 20-27.

Regrettably, once again the Environment Canada Nakiska Ridgetop weather station situated 4 km west of the Hay Meadow site on Olympic Summit (Mount Allan) at 2543 m was inoperative this season and ridge wind information had to be estimated by observers. It should be noted that experience has demonstrated that wind velocities tend to be underestimated by observers located in the valley; on cloudless days or when the ridges were cloaked in cloud estimating the wind direction and velocity proved to be impossible. Observers assessed ridge winds to be from the SSW-W 53.1% of the time, from the WNW 18.4%, from the NW-NE 10.2%, and from the SW-NW and SE-E each 4.1%. On 5 days (10.2%) observers could not assess the ridge winds. On active observation days ridge wind speeds were assessed as moderate to strong (11-41+ km/h) 38.8% of the time and strong to very strong (>41 km/h and >100 km/h) for 20.4% of the time. Moderate winds (11-40 km/h) occurred on 20.4% of active days, and light to moderate (1-40 km/h) winds occurred 10.2% of the time. On five days (10.2%) conditions prevented assessment of wind velocity. Compared to the average of the last three years there were significantly fewer SSW-W days (-29.5%) and significantly more WNW days (+352.5%), and taken together SSW-WNW winds were almost 10% below average. Compared to average strong to very strong winds were +2% and moderate to strong winds were +22.1%, whereas light to moderate winds were almost 60% below average.

Seven active days (14.3%) experienced cloud cover between 80 and 100% all day. A total of 36 days (73.5 %) experienced 100% cloud for at least part of the day. The eastern ridge system (Fisher Range and Mounts Lorette and McDougall) was at least partly obscured on 25 active days (51%), and 40-100% obscured on 11 active days (22.5%); the western ridge system (Mounts Kidd, Bogart, Allan and Collembola) was at least partly obscured on 35 active days (57.4%), and 40-100% obscured on 21 active days (42.9%). Severe daily occlusions (40-100%) of the eastern ridges on active days were 25% below average while the western ridges were 9.5% above average.

General flight dynamics March 1 to April 22

A total of 2426 migrant raptors of 13 species were counted on 49 active observation dates between March 1 and April 22 (**Table 1**). The combined species total was 28.3% below the long-term average for the period March 1 to April 22 at the site. Including the 4 days lost because of weather, a total of 13 days had no raptor passage, and a total of 25 days (51%) had counts of 10 birds or less. The first 12 days of the count yielded only 9 birds and the first significant movement (59 birds) did not occur until March 14. The first 100+ day (211) occurred on March 18, and the only sustained movement was March 22-25 when 875 birds were counted, of which 854 (97.6%) were Golden Eagles. The highest single day count was 380 (356 Golden Eagles) on April 1, which is the first time that this has not happened in March. Other 100+ days were March 22 (211, 205 Golden Eagles), March 24 (288, 277 Golden Eagles) and March 25 (320, 316 Golden Eagles). The first three days of April yielded 581 migrants (543 Golden Eagles), but subsequent movement was sporadic, although April 17 yielded 46 birds (21 Golden Eagles) and the last four days of the count (April 19-22) saw passage of 90 raptors (52 Golden Eagles). The March combined species total of 1533 represented only 63.2% of the total spring 2014 count (compared to 90% last year), and was 34.8% below the average of all March counts at the site (**Table 4A**), and 42.7% below the average of the previous 17 valid counts at the site (**Table 4B**). By contrast the April combined species count of 893 birds was the highest since 2002 and 44.6% above the average of total counts (**Table 5A**) and 33.7% above the average of the previous 17 valid counts at the site (**Table 5B**). The combined species median passage date was March 25 which was 2 days later than the long-term average.

Of the 14 species that regularly occur during the period (**Table 3B**) only 4 species were above average: Osprey 3 (+59.4%), Rough-legged Hawk 18 (+1.7%), American Kestrel 2 (+100%) and Peregrine Falcon 2 (+100%). Red-tailed Hawk (24, -13.4%) was slightly below average while all other species recorded were significantly lower than average: Bald Eagle 106 (-44.2%), Northern Harrier 2 (-55.8%), Sharp-shinned Hawk 15 (-42.8%), Cooper's Hawk 5 (-28.6%), Northern Goshawk 11 (-56.4%), Golden Eagle 2219 (-27.5%), Merlin 3 (-57.5%) and Prairie Falcon 1 (-57.9%). Turkey Vulture, Broad-winged Hawk, Ferruginous Hawk and Gyrfalcon were not recorded this year, while Swainson's Hawk has never been recorded at the site during the current count period.

The final count was Turkey Vulture 0, Osprey 3, Bald Eagle 106, Northern Harrier 2, Sharp-shinned Hawk 15, Cooper's Hawk 5, Northern Goshawk 11, *Accipiter* sp. 3, Broad-winged Hawk 0, Swainson's Hawk 0, Red-tailed Hawk 24, Ferruginous Hawk 0, Rough-legged Hawk 18, *Buteo* sp. 3, Golden Eagle 2219, eagle sp. 7, American Kestrel 2, Merlin 3, Gyrfalcon 0, Peregrine Falcon 1, Prairie Falcon 2, *Falco* sp. 2 and indeterminate raptor 0, for a total of 2426 migrant raptors.

Detailed daily summaries of weather and flight dynamics can be found on the spring 2014 blog on the RMERF website www.eaglewatch.ca

Golden Eagle

Observers counted a total of 2219 migrating Golden Eagles on 37 days between March 7 and April 22, with the highest single-day count of 356 occurring on April 1 (**Figure 1**). This is the first time that the maximum daily count has occurred in April. The number of days on which the species was recorded is 15.6% below average, the total is 27.5% below the long-term average and the high count is 11.4% below average. Four other days also had counts of over 100 birds: March 18 (211), March 22 (211), March 24 (273) and March 24 (288) and March 25 (320). The

March count of 1468 was 33.87% below the average of all counts at the site (**Table 4A**), but when the anomalously low counts are excluded the figure rises to -42% (**Table 4B**). By contrast, the April count of 751 is the fifth highest ever and the highest since 2002. It is 62.9% above the average of all counts (Table 5A) and 45.4% above the average excluding the anomalously low counts. The flight comprised 1670 adults, 97 subadults, 75 juveniles, 4 undifferentiated immature birds and 373 birds of unknown age yielding an immature:adult ratio of 0.11 which is 31.7% above average.

MOUNT LORETTE, SPRING 2014 GOLDEN EAGLE n = 2219

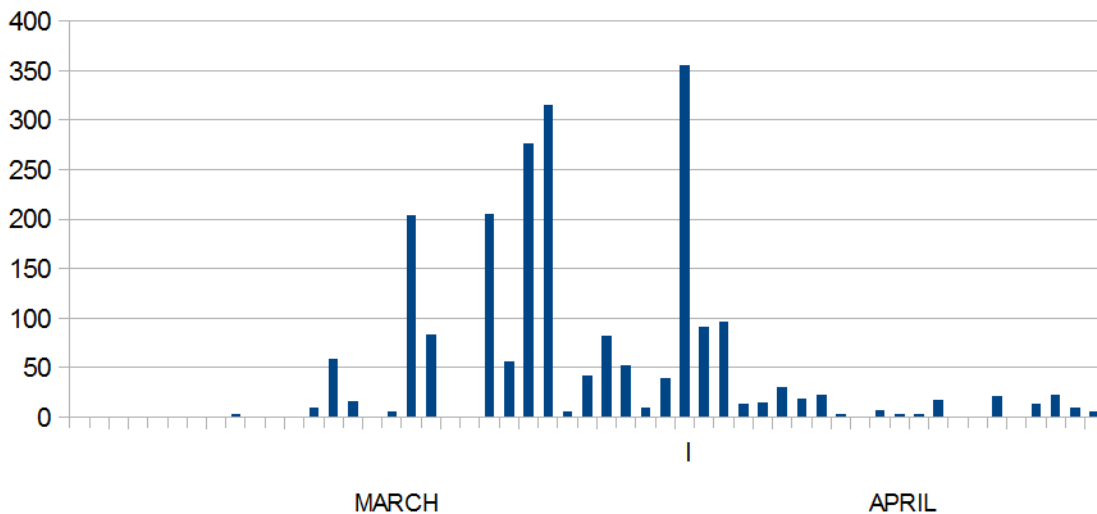


Figure 1

The hourly cumulative counts (**Figure 2A**) differ significantly from the long-term average negatively-skewed normal distribution curve where hourly counts steadily increase throughout the day, peak around 1600 and fall thereafter (**Figure 2B**). This season's chart shows that there was little movement before 1000 (all times are Mountain Standard Time), an unprecedented highest cumulative hourly count of 363 between 1100 and 1200, a diminution to 1300 followed by a steady climb to a secondary peak of 327 between 1600 and 1700 and a rapid decline thereafter with 8 birds recorded after 1900. As with most recent counts, the weather is probably responsible for the pattern differing significantly from the norm of the first 15 years of the count (1993-2007) . The three highest single hour counts were 127 between 1100 and 1200 on March 25, 109 on April 1 between 1600 and 1700, and 106 on March 24 between 1400 and 1500.

MOUNT LORETTE, SPRING 2014 GOLDEN EAGLE n = 2219

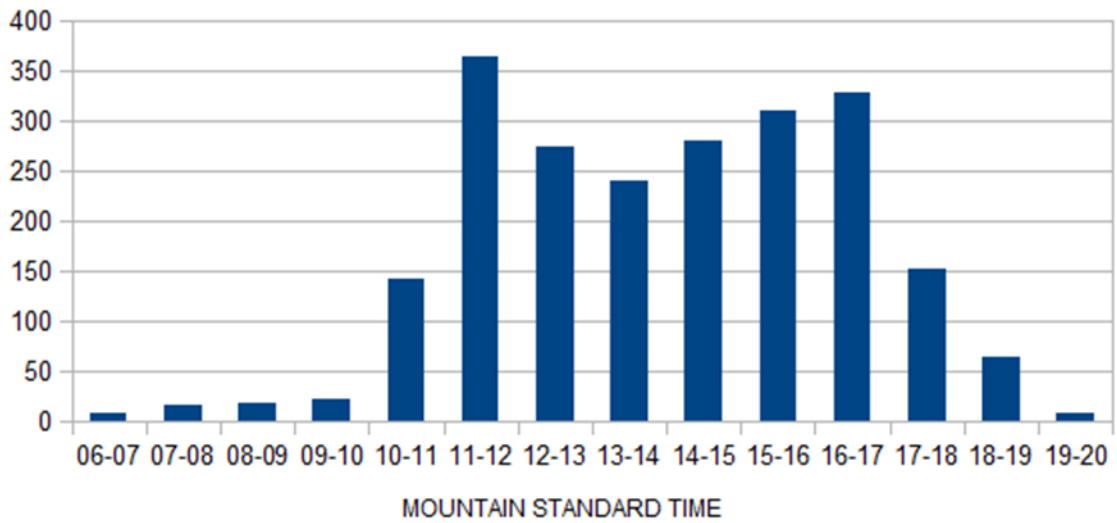


Figure 2A

MOUNT LORETTE SPRING FULL COUNTS 1993-2007 (15 years)
GOLDEN EAGLE n = 48,247

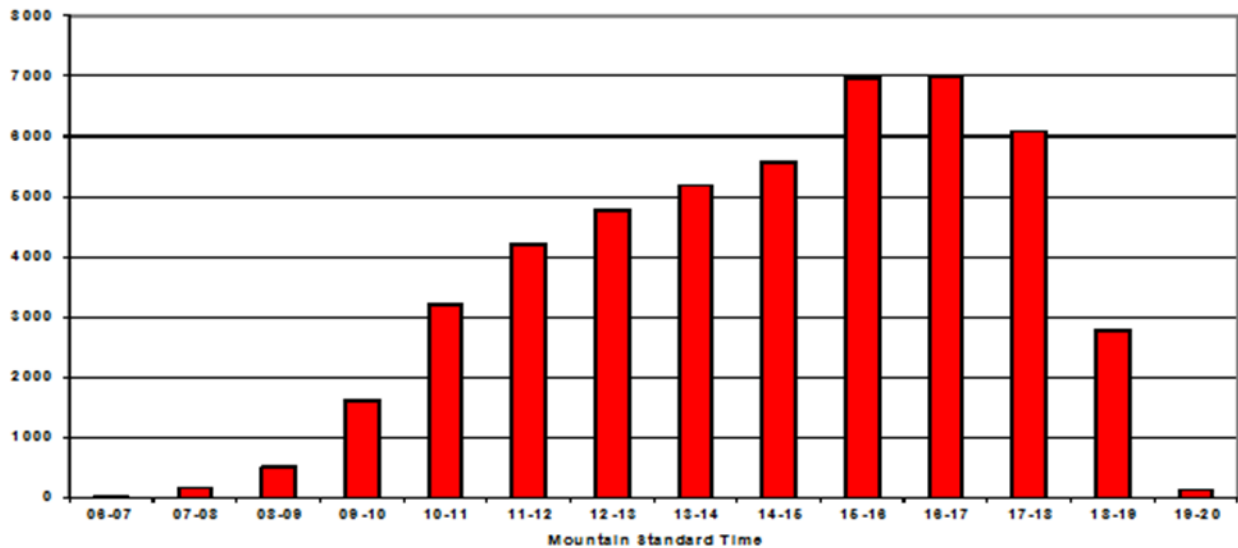


Figure 2B

The median passage date for the species and for adult birds was March 25, both of which were 3 days later than average. The median passage date for immature birds was April 8 which is 5 days earlier than average.

Spring Golden Eagle Trend

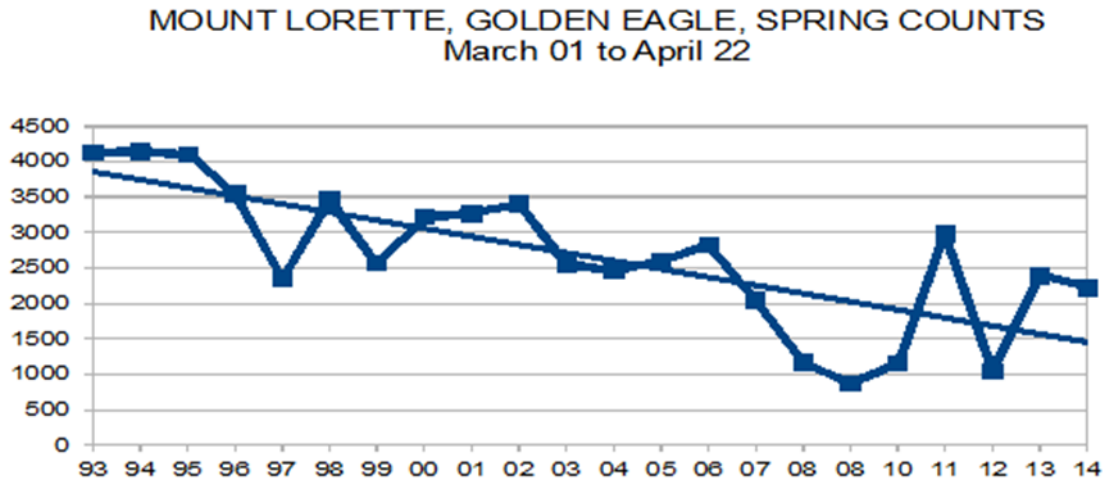


Figure 3A

Figure 3A shows the trend of all Golden Eagle counts at the Mount Lorette site since 1993 for the period March 1 to April 22. As this period normally captures about 97% of the total Golden Eagle movement it is essentially identical to the trend derived from using data from complete counts. For reasons discussed in the Introduction, the years 2008, 2009, 2010 and 2012 that yielded anomalously very low counts have been omitted on **Figure 3B**.

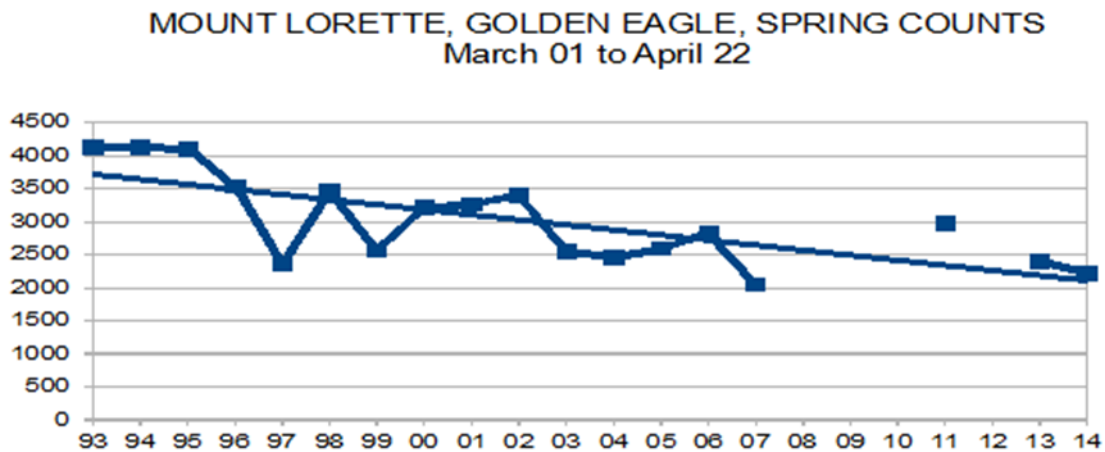


Figure 3B

The weather at the site since 2007 has generally been worse than average and birds may have been deflected to more easterly routes in greater numbers than usual, but the weather in 2011 was similar, as was the weather in 1997 and 1999 and all of these counts (2982, 2352 and 2565 respectively) were significantly higher than those of the period 2008-10. The linear trend line (**Figure 3A**) appears to show a significant decline over the last 20 years (and especially since 1995) and removal of the recent anomalous low counts (**Figure 3B**) only slightly tempers but does not change this trend, as does the removal of the demonstrably weather-affected counts in 1997 and 1999 (**Figure 3C**). Data from the present count does not materially alter this trend and the future of this population of migratory Golden Eagles should still be of serious concern.

MOUNT LORETTE, GOLDEN EAGLE, SPRING
COUNTS, March 01 to April 22

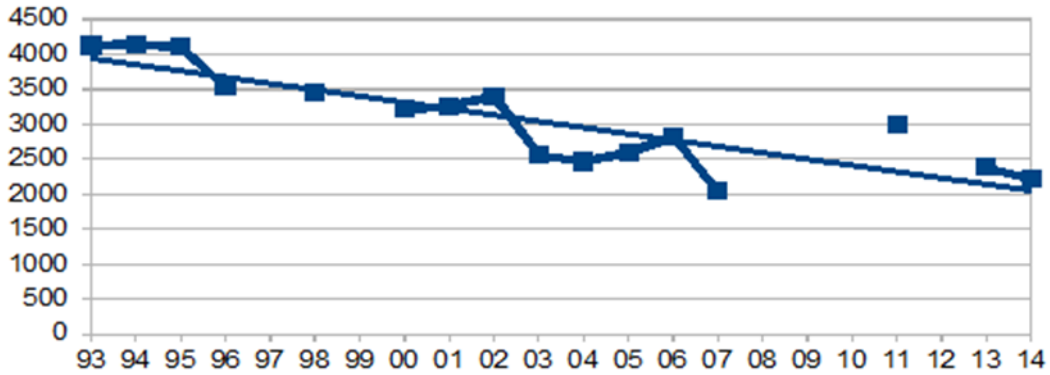


Figure 3C

Golden Eagle Age Analysis

MOUNT LORETTE, GOLDEN EAGLE immature:adult age
ratios 1994-2014

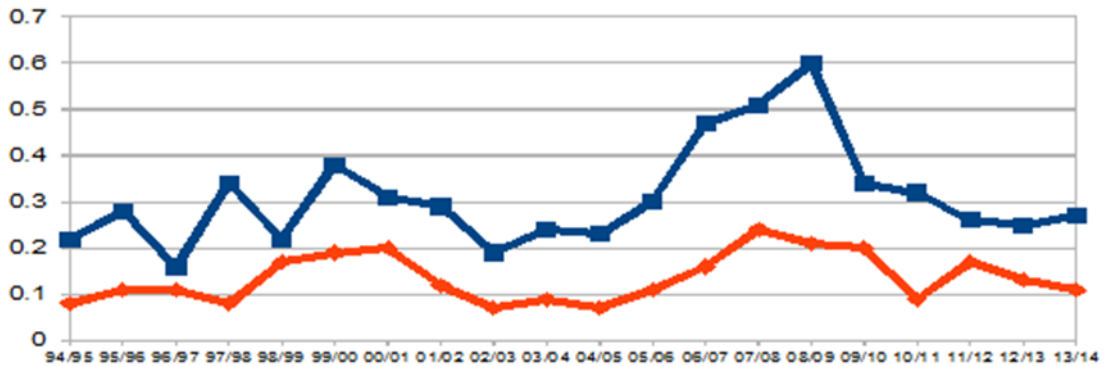


Figure 4

Figure 4 shows the ratio of immature and adult Golden Eagles from 1994 to 2014. This is based on a combination of Mount Lorette and Piitaistakis-South Livingstone data as contemporaneous counts from both sites show a close correlation of ratios. The upper (blue) series show fall data, the lower (red) series show spring data. The fall data points are plotted above the spring data points of the following year. Both data sets show a remarkable parallelism, with the spring data consistently showing a significant reduction from the previous fall. This probably reflects a combination of winter mortality and possibly a more diffuse migration pattern of young birds in the spring. It is also accentuated by the shorter count period which generally under-counts the number of juvenile birds, many of which move after April 22. Despite these limitations the trends are consistent and almost certainly reflect the breeding cycles of the northern Snowshoe

Hare population^(1,2,3). This probably peaked around the time counts started at Mount Lorette in 1992, (although age data from the first two years are not reliable enough to be included) and fell to 1995 rising again to a second peak around 2000/01, that then fell to 2003 before rising to the latest peak in 2008 with the ratio falling over the next two years. This would indicate that two, more or less, eight-year cycles have occurred during the life of the project so far. Many immature Golden Eagles (subadults and juveniles) move north in the second half of April and during May which is why the age ratios from the shorter count are lower. It is very gratifying, however, to see that data from the period March 1 to April 22 closely follow the trend established from the full count data (see the 2012 spring report). This suggests that we can successfully continue to monitor these trends by counting from March 1 to April 22, although it is to be hoped that at some time we will be able to resume full counts at the site. The age ratio from the fall 2013 count suggested that breeding success is beginning to increase again with numbers beginning to rise towards the next peak which is expected be around 2016. Reports from the Yukon⁵ suggest that 2013 saw a significant rise in the number of Snowshoe Hares, and this should be reflected in the number of juvenile birds recorded on the coming fall 2014 count.

Bald Eagle

Observers counted only 106 Bald Eagles on 27 days between March 7 and April 22 (**Figure 5**). This was the second lowest ever spring count at the site if the anomalously low combined-species counts of 2008 (86), 2009 (76), 2010 (88) and 2012 (91) are excluded, and is only 2 above last years lowest count. The count is 37.6% below the long-term average of all counts, and 44.2% below the average excluding 2008-10 and 2012. The highest daily count was 19 on April 1 which is 12.5% below the average high count (excluding low counts) for the period. The March count of 52 was 54% below average and the April count of 54 was 38% below average. The flight comprised 89 adults, 6 subadults and 11 juveniles giving an overall immature:adult ratio of 0.19 which is 45.2% below the long-term average ratio. The median passage date for the species was April 2, 5 days later than average; adult birds were 3 days later than average on March 30 and immature birds were 6 days later on April 6.

MOUNT LORETTE, SPRING 2014 BALD EAGLE n = 106

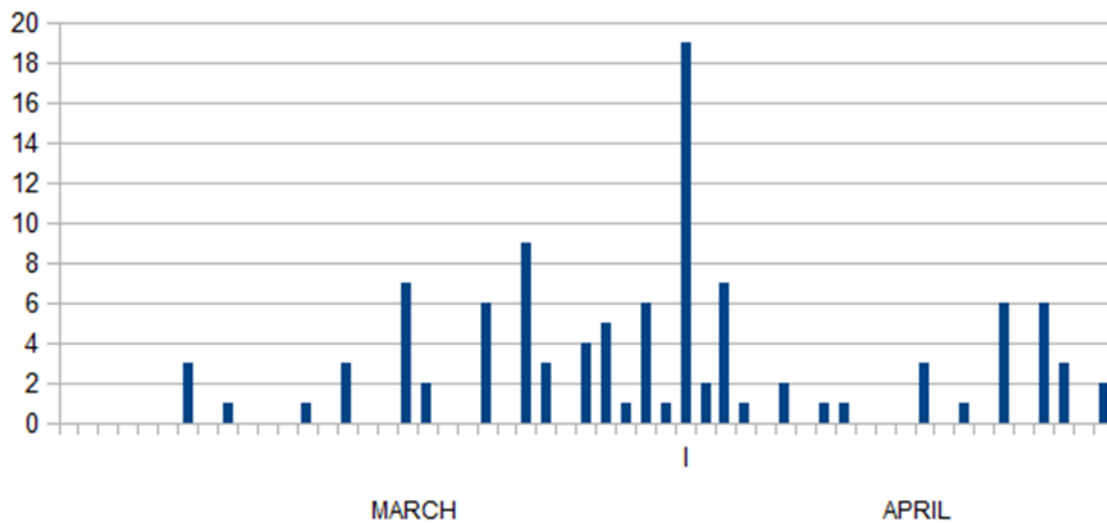


Figure 5

Other species

Turkey Vulture

Not recorded this year. The only previous records for the count period were single birds recorded on April 13, 1993, March 18, 2011 and March 31 2013.

Osprey

Single birds were recorded on April 17, 20 and 22, and the total of 3 birds is 59.4% above average.

Northern Harrier

Only two birds were recorded: an undifferentiated female/juvenile bird on April 16 and an adult male on April 17. The total is 55.8% below the average count for the period.

Sharp-shinned Hawk

This season again continued the run of low counts for the species at the site since 2007 with a count of only 15 birds on 10 days between April 5 and April 22 which is 42.8% below average. The highest daily count was only 3 birds on April 17, which is 50.5% below the average high count. It should be noted that 10 birds (66.7% of the total) moved between April 17 and April 22, which suggests that movement of the species was late this year, and this is reflected in the median passage date for the species of April 12, which is 5 days later than average. The flight comprised 9 adults, 1 juvenile and 5 unaged birds, and the median passage date of April 14 for adult birds is 3 days later than average.

Cooper's Hawk

A total of 5 adult Cooper's Hawks occurred on 5 days between April 14 and April 22: the median passage date for the species and adult birds are 4 days and 5 days later than average on April 13 and April 12 respectively. The total is 28.6% below average.

Northern Goshawk

The total of 11 birds seen on 8 days between March 24 and April 20 was 45.4% lower than average. The highest single-day count was 3 on April 14 which is 10.5% below average. The flight comprised 6 adults, 1 juvenile and 4 birds of unknown age giving an age ratio of 0.17 which is slightly above average (+9.1%). The median passage dates for both the species and for adults was April 14 which are 15 days and 18 days later than average respectively.

Broad-winged Hawk

Not recorded this season. The only previous records for the period were single birds seen on April 21 1994 and April 13 1996.

Swainson's Hawk

This late migrant has never been recorded during this count period.

Red-tailed Hawk

The total of 24 birds counted on 12 days between March 19 and April 21, was 13.4% below average. The highest daily count was 7 on April 17 which is 50.6% above the average high count. The flight comprised 24 "Western Red-tailed Hawks" (*B.j.calurus*): 19 adult and 1 indeterminate light morphs, 1 adult rufous (intermediate) morph and 2 adult and 1 indeterminate dark morphs. The median passage dates of both the species and of adults was April 8, which are 1 day earlier and 1 day later than average respectively.

Ferruginous Hawk

Not recorded this season. Previous records for the period are 1 on April 9 1994, single birds on April 6 and 7 1995 and 1 on April 15 2001.

Rough-legged Hawk

Observers counted a total of 18 birds on 12 days between March 30 (9 days later than the average first occurrence) and April 20. The median passage date of April 10 was 3 days later than average. The flight comprised 14 light morph and 3 dark morph birds.

American Kestrel

Two birds were seen this year: a male on April 19 and a female on April 22, a total which is 100% above average.

Merlin

Only 3 single birds were recorded on March 27, March 30 and April 6, a total that is 57.5 below average and the lowest ever for a valid count. The flight comprised 1 adult male and one indeterminate bird of the race *columbarius*, and 1 bird of indeterminate race, age and sex.

Gyrfalcon

Not recorded this year. It has been recorded in the count period on 13 of the previous 21 years.

Peregrine Falcon

A juvenile bird was recorded on April 17 and an adult on April 21: the total is 100% greater than the average count.

Prairie Falcon

A single bird seen on April 19 was the only record for the season.

Observers

Principal Observers: Joel Duncan (13 days), Terry Waters (12 days), George Halmazna (8 days), Bill Wilson (8 days), Cliff Hansen (6 days), Jim Davis (1 day), Peter Sherrington (1 day)

Assistants: Rod Smith (11 days), Kevin Barker (7 days), Nic David (1 day), Ruth Morrow (7 days), Dan Parliament (6 days), Cliff Hansen (3 days), Chris Hunt (3 days), Gord Petersen (2 days), Jennifer Waters (2 days), Cindy and Bob Kam (1 day), Ed McCullough (1 day), Cindy Parliament (1 day), Christopher Shank (1 day), Judy Sterner (1 day), Diane Stinson (1 day), Heinz Unger (1 day), Terry Waters (1 day), Michael Woertman (1 day).

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⁵ *Snowshoe hare on rebound in Yukon as cycle continues* CBC News website, posted Aug 6 2004

Beaver Mines reconnaissance count, Alberta

Beaver Mines is a small hamlet located about 20 km west of the town of Pincher Creek in southwestern Alberta. It is also where I have lived for the last six years after moving there in order to conduct counts at the Piitaistakis-South Livingstone site. My house is located in a valley on the alignment of the most easterly foothills ridge system that has a NW-SE orientation in this area. In the past I have commented in the daily blog on individual days when I have observed significant raptor movement from my house in both spring and fall at times when the mountain and foothill ridges to the west are obscured by cloud. This season these conditions appeared to have prevailed for extended periods so I was able to conduct non-systematic counts on 17 days (78.1 hours) between March 18 and April 17. The results are tabulated in **Table 7**. During the count a total of 1092 migrants of 10 species were recorded, comprising 110 Bald Eagles, 16 Sharp-shinned Hawks, 5 Cooper's Hawks, 12 Northern Goshawks, 1 Broad-winged Hawk, 62 Red-tailed Hawks, 3 Ferruginous Hawks, 14 Rough-legged Hawks, 853 Golden Eagles and 3 Merlins. Significant Count days were 142 on March 19, including 130 Golden Eagles; 251 on March 28, including 227 Golden Eagles; 109 on March 29, including 75 Golden Eagles; 196 on April 2, including 23 Bald and 145 Golden Eagles; and 111 on April 3, including 25 Bald and 60 Golden Eagles. Details of this count and other single day counts in the area can be found on the spring 2014 blog on our website: www.eaglewatch.ca. Many thanks to Alex Atkinson and Gord Petersen for assisting with this count.

Steeple Ridge extended reconnaissance count, British Columbia

Introduction

In the fall of 2009, Vance Mattson conducted the first extended reconnaissance count at or near the Steeples Ridge which is located on the east side of the Kootenay Valley (Rocky Mountain Trench) 25 km NE of Cranbrook, British Columbia. Three sites were used to monitor raptor movement along, or just north of, the NNW-SSE oriented Steeples Ridge which forms the southern part of the Hughes Range on the western flank of the Rocky Mountains. Of significance is that it is located about 80 km almost due west of the Piitaistakis-South Livingstone site giving the possibility of simultaneously monitoring movement along the eastern and western flanks of the Rocky Mountains at the same latitude. Vance spent 41 partial days (148 hours) at 3 sites between September 18 and November 12, 2009, with 95% of the time being spent between 1300 and 1800 and recorded 453 migrant raptors of 12 species. An extended spring reconnaissance count was conducted at the site for the first time in 2010, and 2014 was the fourth spring count there (**Table 9**).

During the spring 2014 season Vance conducted a 40-day (142.3 hour) extended reconnaissance count out of a possible 53 days between March 1 and April 22 (**Table 8**). All observation was again conducted at the Bill Nye site, with the exception of five days spent at the South Lakit site. Between 1 and 6.5 hours at an average of 3.56 hours a day were spent at the site with most observations conducted between 1300 and sundown.

Details of the sites are as follows:

Bill Nye (Scarface) (49° 45' 11.10''N, 115° 38' 49.14''W, 1041m)

The Scarface site (named due to a prominent 'scar' on the face of the mountain), is a convenient option from Wasa Lake. Following Lazy Lake Road east toward Lazy Lake, the site is located south of an unmarked back road approximately 10 km from the Lazy Lake Road turn off on Wasa Lake Park Drive on the southern edge of Wasa Lake. The site is located about 5 km southeast from the back road turnoff, although it may require detailed instructions to arrive there. The site offers views of the birds as they pass over, or in front of, the ridge. 'Scarface Peak' (2400m) is the most westerly and visibly craggy peak of Mount Bill Nye (2600m).

South Lakit (49° 35' 45.45"N, 115° 35' 30.50"W, 1080m)

The South Lakit Site is located approximately 6km north on the Fort Steele-Wildhorse Forest Service Road and is accessed from Wardner-Fort Steele Road. The Wardner-Fort Steele Road joins Highway 93 near Wardner in the southeast to Highway 93 near Fort Steele in the northwest. This road also runs along the east side of the Kootenay River with the Steeples Ridge (the location of the Steeples Site) immediately to the east. The Wildhorse Forest Service road is located just east of the Fort Steele Gas Station at the junction of Highway 93. The site itself is located off the Wildhorse Road, and sits at the southern base of the Lakit Range, with Lone Peak to the SSE and the Steeples Range commencing just beyond this point.

Weather

A total of 13 days (March 1-6, 14, 20, 28, April 11, 15, 17 and 22) were completely lost to adverse weather conditions when the ridges were obscured on heavily overcast days. Hourly weather data were not gathered but daily weather summaries were produced (**Table 10**). The temperature high for the count was 21°C on April 8 and the lowest maximum daily temperature was 1°C on March 22. Average high temperatures on active observation days in March were 7.5°C (range 1°C to 11°C) and 12.2°C in April (range 7°C to 21°C). Temperatures were considerably more clement than those at sites on the eastern flanks of the Rockies.

The most common ridge wind direction was W-SSW (52.5% of active days), followed by S-ESE (20%), N-WNW (12.5%), variable within a 90° quadrant (5%) and NNE-E (2.5%); 3 days (7.5%) were assessed as calm. Wind velocities were assessed as strong on 47.5% of active days, moderate to strong 7.5%, moderate 10%, variable 5%, light 22.5% and calm 7.5%. It is interesting to note that during the period of maximum movement, March 22-25 when 136 migrants were seen winds were assessed as light to calm. Conditions were generally cloudy with 55% of active days experiencing 70-100% cloud cover, 32.5% between 30 and 60% and only 12.5% with cloud cover less than 30% (with no day less than 20%).

General flight dynamics

Unlike the previously three years when raptor movement along the western flanks of the Rocky Mountains appeared to be more sporadic than along the eastern flanks, this year migration appeared to be steadier, although 76% of the movement (348 birds) occurred March 7-25. Peak days were March 17 (58), March 18 (42), March 23 (52) and March 24 (46). April migration, however, was relatively sparse with only one day, April 6, producing a double-digit count (21 migrants). March produced 83.7% of the total, and April only 16.3%, compared to 63.2% and 36.8% respectively at Mount Lorette.

Count Summary

The count produced a total of 460 migrant raptors of 8 species (**Table 8**). Of this total 275 (59.8%) were Golden Eagles and 140 (30.4%) were Bald Eagles. Eagle species together comprised 90% of the total flight compared to the 95.8% eagles recorded at Mount Lorette, although there Golden Eagles (2219) greatly outnumbered Bald Eagles (106). Other migrants at Steeples were scarce and comprised 14 adult Turkey Vultures (which is a new high count for the site), 3 Ospreys (which is also a new high count), 5 Sharp-shinned Hawks (adult, 4 unaged), 14 *calurus* Red-tailed Hawks (10 adult light morphs, 2 adult rufous (intermediate) morphs and 2 indeterminate birds, 4 Rough-legged Hawks (3 light and 1 dark morph), 1 unidentified *Buteo* and 4 American Kestrels (2 adult males and 2 adult females), which is also a new high count. The results of all four spring counts at the site are summarized on **Table 9**.

Golden and Bald Eagles

The 275 migrant Golden Eagles were recorded on 21 of a possible 40 active field days (52.5%) with a highest single day count of 40 on March 22 and with the second highest count of 34 on the following day. Ten days (25%) had double-digit counts this season. The flight comprised 230 adults, 7 subadults, 33 juveniles and 5 birds of indeterminate age giving an immature:adult ratio of 0.19, which is far higher than the ratio of 0.11 at Mount Lorette.

A total of 140 migrant Bald Eagles were recorded on 22 days (55%) with a single day high count of 36 on March 17. Three other days had double-figure counts of 11 birds on March 18, 22 and 23. The flight comprised 99 adults, 16 subadults and 21 juveniles and 4 birds of indeterminate age, giving an immature:adult ratio of 0.37 much higher than the ratio of 0.19 at Mount Lorette.

Principal Observer at Steeples

Vance Mattson

TABLE 2

MOUNT LORETTE, SPRING COUNTS 1993-2014

YEAR	DAYS	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL
1993	48	392.7	1	5	169	4	39	19	54	0	0	34	0	4	4140	0	9	0	3	4	0	1	0	3	0	4489
1994	70	648.7	0	7	229	12	62	23	44	2	0	50	1	22	4213	2	2	3	0	14	2	1	0	0	0	4689
1995	65	582	0	10	176	9	73	11	46	1	0	43	2	25	4143	5	17	1	6	6	0	0	0	0	0	4574
1996	80	728.3	0	12	266	13	106	20	25	3	3	23	0	15	3671	7	8	1	4	4	3	2	0	0	0	4186
1997	75	680.6	1	7	224	7	53	12	21	1	0	35	0	15	2461	9	9	1	1	3	2	4	0	4	0	2870
1998	72	650.4	0	8	164	16	40	10	9	2	1	34	0	30	3613	6	7	1	1	2	1	4	0	2	0	3951
1999	90	907	1	8	210	17	155	44	14	5	2	82	1	18	2817	16	8	0	1	4	2	1	0	0	3	3409
2000	85	933.4	1	21	237	14	74	21	11	0	2	30	1	26	3436	13	11	1	1	2	0	4	3	0	8	3917
2001	90	1037	0	6	276	9	56	18	32	4	0	50	2	26	3525	6	12	3	4	0	5	2	4	0	2	4042
2002	82	914.1	0	12	265	7	77	8	33	0	0	32	0	21	3518	8	11	4	2	2	3	1	1	2	5	4012
2003	86	939.2	2	6	209	12	39	9	12	4	0	34	1	17	2591	7	9	2	2	0	5	2	1	0	6	2970
2004	86	1068	0	7	200	8	58	12	23	0	0	39	0	11	2539	2	8	0	3	3	1	1	2	2	6	2925
2005	94	1238	1	28	235	10	82	25	57	2	1	28	2	28	2667	9	10	3	3	2	3	3	6	1	7	3213
2006	93	1214	2	11	234	7	61	18	27	1	1	28	0	26	2918	4	16	1	2	0	9	3	8	0	3	3380
2007	83	1019	4	8	212	6	62	18	27	1	1	70	0	17	2141	9	20	3	2	5	8	0	0	1	6	2621
2008	44	493.3	0	0	86	1	1	1	2	0	0	3	0	1	1171	0	2	0	1	0	3	2	3	2	3	1282
2009	40	450	0	0	76	0	6	5	7	0	0	6	0	3	882	0	1	0	0	1	4	1	5	1	1	999
2010	46	519	0	0	88	1	1	0	21	0	0	14	0	7	1160	0	1	1	0	1	1	2	13	0	1	1312
2011	48	556.1	1	1	192	5	41	8	17	0	0	45	0	40	2982	1	4	1	2	2	1	6	13	0	0	3362
2012	48	495.4	0	1	91	2	25	6	16	0	0	52	0	7	1034	2	5	1	3	1	7	3	4	0	0	1260
2013	49	537.4	1	0	104	2	17	1	13	0	0	18	0	27	2389	0	7	0	1	1	10	10	4	1	1	2607
2014	49	526.3	0	3	106	2	15	5	11	0	0	24	0	18	2219	2	3	0	2	1	3	3	7	2	0	2426
TOTALS	1523	16530	15	161	4049	164	1143	294	522	26	11	774	10	404	60230	108	180	27	44	58	73	56	74	21	52	68496

TABLE 3A

SPRING SUMMARY TOTALS, MOUNT LORETTE 1993-2014 (all counts)

YEAR	DAYS	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL		
1993	43	369.4	1	3	167	3	37	19	51	0	0	31	0	4	4124	0	8	0	3	4	0	1	0	3	0	4459		
1994	52	495.9	0	4	218	10	45	18	41	1	0	36	1	20	4142	0	1	3	0	11	2	1	0	0	0	4554		
1995	46	459.6	0	4	164	1	31	6	44	0	0	32	2	18	4108	1	11	0	3	6	0	0	0	0	0	4431		
1996	50	492.5	0	4	238	8	28	4	20	1	0	18	0	11	3543	0	5	0	1	3	3	1	0	0	0	3888		
1997	48	460.3	0	2	212	4	16	5	16	0	0	21	0	12	2352	2	7	1	0	2	2	1	0	1	0	2656		
1998	52	458.5	0	0	149	6	20	4	7	0	0	21	0	29	3466	0	7	1	1	2	0	1	0	2	0	3716		
1999	50	529.4	0	0	184	10	9	6	9	0	0	46	0	15	2565	1	6	0	0	2	1	1	0	0	1	2856		
2000	48	554.6	0	1	204	5	28	7	9	0	0	14	0	24	3219	5	5	1	0	1	0	3	3	0	4	3533		
2001	50	586.8	0	1	237	4	29	7	25	0	0	30	1	21	3265	2	8	3	1	0	0	0	4	0	2	3640		
2002	52	587.6	0	1	240	4	32	5	25	0	0	25	0	9	3405	2	7	3	0	1	3	1	0	2	5	3770		
2003	49	569.8	0	1	184	5	10	4	12	0	0	24	0	14	2558	1	5	2	0	0	5	1	1	0	3	2830		
2004	51	646.9	0	6	173	1	24	7	20	0	0	32	0	11	2465	1	8	0	3	2	0	1	2	2	4	2762		
2005	53	697.4	0	1	182	2	16	2	44	0	0	15	0	8	2594	0	6	3	0	0	1	1	6	0	4	2885		
2006	53	694.3	0	2	190	4	31	10	22	0	0	18	0	24	2826	0	12	1	1	0	5	3	8	0	3	3160		
2007	50	622.6	0	1	189	3	32	6	19	0	0	45	0	14	2051	1	13	3	1	2	1	0	0	0	3	2384		
2008	44	493.3	0	0	86	1	1	1	2	0	0	3	0	1	1171	0	2	0	1	0	3	2	3	2	3	1282		
2009	40	450	0	0	76	0	6	5	7	0	0	6	0	3	882	0	1	0	0	1	4	1	5	1	1	999		
2010	46	519	0	0	88	1	1	0	21	0	0	14	0	7	1160	0	1	1	0	1	1	2	13	0	1	1312		
2011	48	556.1	1	1	192	5	41	8	17	0	0	45	0	40	2982	1	4	1	2	2	1	6	13	0	0	3362		
2012	48	495.4	0	1	91	2	25	6	16	0	0	52	0	7	1034	2	5	1	3	1	7	3	4	0	0	1260		
2013	49	537.4	1	0	104	2	17	1	13	0	0	18	0	27	2389	0	7	0	1	1	10	10	4	1	1	2607		
2014	48	526.3	0	3	106	2	15	5	11	0	0	24	0	18	2219	2	3	0	2	1	3	3	7	2	0	2426		
93-14	1070	11803	3	36	3674	83	494	136	451	2	0	570	4	337	58520	21	132	24	23	43	52	43	73	16	35	64772		
v 93-14	48.7	537.0	0.1	1.6	169.9	3.9	22.8	6.2	21.0	0.1	0.0	26.0	0.2	15.2	2681.0	0.9	6.1	1.1	1.0	2.0	2.3	1.9	3.1	0.7	1.7	2968.9		
4 cf A	-1.4	-2.0			90.9	-37.6	-48.1	-34.2	-19.8	-47.5					-7.7	18.5	-17.2	121.1	-51.2		100.0	-50.0	28.6	57.5	122.7	200.0		-18.3

TABLE 3B

SPRING SUMMARY TOTALS, MOUNT LORETTE 1993-2014 (excluding 2008-2010 and 2012)

YEAR	DAYS	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL		
1993	43	369.4	1	3	167	3	37	19	51	0	0	31	0	4	4124	0	8	0	3	4	0	1	0	3	0	4459		
1994	52	495.9	0	4	218	10	45	18	41	1	0	36	1	20	4142	0	1	3	0	11	2	1	0	0	0	4554		
1995	46	459.6	0	4	164	1	31	6	44	0	0	32	2	18	4108	1	11	0	3	6	0	0	0	0	0	4431		
1996	50	492.5	0	4	238	8	28	4	20	1	0	18	0	11	3543	0	5	0	1	3	3	1	0	0	0	3888		
1997	48	460.3	0	2	212	4	16	5	16	0	0	21	0	12	2352	2	7	1	0	2	2	1	0	1	0	2656		
1998	52	458.5	0	0	149	6	20	4	7	0	0	21	0	29	3466	0	7	1	1	2	0	1	0	2	0	3716		
1999	50	529.4	0	0	184	10	9	6	9	0	0	46	0	15	2565	1	6	0	0	2	1	1	0	0	1	2856		
2000	48	554.6	0	1	204	5	28	7	9	0	0	14	0	24	3219	5	5	1	0	1	0	3	3	0	4	3533		
2001	50	586.8	0	1	237	4	29	7	25	0	0	30	1	21	3265	2	8	3	1	0	0	0	4	0	2	3640		
2002	52	587.6	0	1	240	4	32	5	25	0	0	25	0	9	3405	2	7	3	0	1	3	1	0	2	5	3770		
2003	49	569.8	0	1	184	5	10	4	12	0	0	24	0	14	2558	1	5	2	0	0	5	1	1	0	3	2830		
2004	51	646.9	0	6	173	1	24	7	20	0	0	32	0	11	2465	1	8	0	3	2	0	1	2	2	4	2762		
2005	53	697.4	0	1	182	2	16	2	44	0	0	15	0	8	2594	0	6	3	0	0	1	1	6	0	4	2885		
2006	53	694.3	0	2	190	4	31	10	22	0	0	18	0	24	2826	0	12	1	1	0	5	3	8	0	3	3160		
2007	50	622.6	0	1	189	3	32	6	19	0	0	45	0	14	2051	1	13	3	1	2	1	0	0	0	3	2384		
2008																												
2009																												
2010																												
2011	48	556.1	1	1	192	5	41	8	17	0	0	45	0	40	2982	1	4	1	2	2	1	6	13	0	0	3362		
2012																												
2013	49	537.4	1	0	104	2	17	1	13	0	0	18	0	27	2389	0	7	0	1	1	10	10	4	1	1	2607		
2014	48	526.3	0	3	106	2	15	5	11	0	0	24	0	18	2219	2	3	0	2	1	3	3	7	2	0	2426		
93-14	892	9845	3	35	3333	79	461	124	405	2	0	495	4	319	54273	19	123	22	19	40	37	35	48	13	30	59919		
v 93-14	49.6	548.2	0.2	1.9	189.8	4.5	26.2	7.0	23.2	0.1	0.0	27.7	0.2	17.7	3062.0	1.0	7.1	1.3	1.0	2.3	2.0	1.9	2.4	0.6	1.8	3381.9		
4 cf A	-3.3	-4.0			59.4	-44.2	-55.8	-42.8	-28.6	-52.5					-13.4	1.7	-27.5	100.0	-57.5		100.0	-56.4	50.0	59.4	190.2	209.1		-28.3

TABLE 4A																										
MARCH SUMMARY TOTALS, MOUNT LORETTE 1993-2014 (all counts)																										
	days	hrs.	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ME	GY	PG	PR	UA	UB	UE	UF	UU	T
1993	23	180	0	0	107	2	7	2	20	0	0	7	0	2	3176	0	4	0	1	0	0	1	0	1	0	3330
1994	30	281	0	0	154	2	1	3	21	0	0	7	0	0	3356	0	1	2	0	7	0	0	0	0	0	3554
1995	28	264.7	0	0	92	1	1	1	34	0	0	5	0	7	3618	0	4	0	0	2	0	0	0	0	0	3765
1996	29	254.6	0	0	110	1	3	1	11	0	0	1	0	3	2370	0	1	0	0	2	0	0	0	0	0	2503
1997	26	250.5	0	0	109	0	1	0	5	0	0	4	0	1	2118	0	2	1	0	1	0	0	0	0	0	2242
1998	30	255.5	0	0	79	1	3	0	2	0	0	1	0	3	2895	0	3	1	0	1	0	0	0	0	0	2989
1999	29	305.6	0	0	124	1	2	4	6	0	0	2	0	1	2320	0	3	0	0	1	0	0	0	0	1	2465
2000	27	305.6	0	0	141	0	0	0	4	0	0	5	0	1	2751	0	0	0	0	1	0	1	2	0	1	2907
2001	31	363.7	0	0	137	0	0	1	8	0	0	3	0	1	2694	0	5	2	0	0	0	0	3	0	1	2855
2002	30	310.3	0	0	119	0	0	0	6	0	0	2	0	0	1950	0	3	1	0	0	0	0	0	1	1	2083
2003	28	311.4	0	0	118	0	2	0	6	0	0	1	0	4	2055	0	2	0	0	0	1	0	0	0	0	2189
2004	30	369.7	0	0	126	0	2	0	12	0	0	12	0	6	2300	0	1	0	1	1	0	0	1	1	2	2465
2005	31	387.8	0	0	121	0	4	1	26	0	0	3	0	1	2319	0	3	3	0	0	0	0	5	0	1	2487
2006	31	393.9	0	0	101	1	1	0	9	0	0	8	0	2	2544	0	2	1	0	0	0	0	1	0	0	2670
2007	31	385.3	0	0	91	0	0	0	6	0	0	8	0	1	1782	0	1	2	0	1	0	0	0	0	1	1893
2008	31	342.3	0	0	73	1	0	0	2	0	0	1	0	1	1093	0	2	0	0	0	2	1	3	0	2	1181
2009	27	289.4	0	0	36	0	5	0	5	0	0	0	0	2	684	0	0	0	0	1	3	0	5	1	1	743
2010	31	347.1	0	0	64	1	0	0	17	0	0	6	0	6	1051	0	0	1	0	0	1	2	10	0	1	1160
2011	27	305.4	1	0	124	2	5	1	9	0	0	2	0	9	2554	0	0	1	1	1	0	4	10	0	0	2724
2012	28	270.8	0	0	42	0	3	1	1	0	0	1	0	5	771	0	1	0	0	0	1	1	1	0	0	828
2013	29	308.8	1	0	74	0	9	0	10	0	0	8	0	4	2216	0	3	0	1	0	8	7	4	1	0	2346
2014	28	290.8	0	0	52	0	0	0	2	0	0	4	0	2	1468	0	2	0	0	0	0	0	3	0	0	1533
TOTAL	635	6774	2	0	2194	13	49	15	222	0	0	91	0	62	48085	0	43	15	4	19	16	17	48	5	12	50912
Av 93-13	28.9	308.7	0.1	0	102	0.62	2.33	0.71	10.5	0	0	4.14	0	2.86	2219.9	0	1.95	0.71	0.19	0.9	0.76	0.81	2.14	0.24	0.57	2351.4
14 cf Av	-3.1	-5.8	-100	0	-49	-100	-100	-100	-81	0	0	-3.4	0	-30	-33.87	0	2.44	-100	-100	-100	-100	-100	40	-100	-100	-34.8

TABLE 4B																										
MARCH SUMMARY TOTALS, MOUNT LORETTE 1993-2014 (excluding 2008-2010 and 2012)																										
	days	hrs.	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ME	GY	PG	PR	UA	UB	UE	UF	UU	T
1993	23	180	0	0	107	2	7	2	20	0	0	7	0	2	3176	0	4	0	1	0	0	1	0	1	0	3330
1994	30	281	0	0	154	2	1	3	21	0	0	7	0	0	3356	0	1	2	0	7	0	0	0	0	0	3554
1995	28	264.7	0	0	92	1	1	1	34	0	0	5	0	7	3618	0	4	0	0	2	0	0	0	0	0	3765
1996	29	254.6	0	0	110	1	3	1	11	0	0	1	0	3	2370	0	1	0	0	2	0	0	0	0	0	2503
1997	26	250.5	0	0	109	0	1	0	5	0	0	4	0	1	2118	0	2	1	0	1	0	0	0	0	0	2242
1998	30	255.5	0	0	79	1	3	0	2	0	0	1	0	3	2895	0	3	1	0	1	0	0	0	0	0	2989
1999	29	305.6	0	0	124	1	2	4	6	0	0	2	0	1	2320	0	3	0	0	1	0	0	0	0	1	2465
2000	27	305.6	0	0	141	0	0	0	4	0	0	5	0	1	2751	0	0	0	0	1	0	1	2	0	1	2907
2001	31	363.7	0	0	137	0	0	1	8	0	0	3	0	1	2694	0	5	2	0	0	0	0	3	0	1	2855
2002	30	310.3	0	0	119	0	0	0	6	0	0	2	0	0	1950	0	3	1	0	0	0	0	0	1	1	2083
2003	28	311.4	0	0	118	0	2	0	6	0	0	1	0	4	2055	0	2	0	0	0	1	0	0	0	0	2189
2004	30	369.7	0	0	126	0	2	0	12	0	0	12	0	6	2300	0	1	0	1	1	0	0	1	1	2	2465
2005	31	387.8	0	0	121	0	4	1	26	0	0	3	0	1	2319	0	3	3	0	0	0	0	5	0	1	2487
2006	31	393.9	0	0	101	1	1	0	9	0	0	8	0	2	2544	0	2	1	0	0	0	0	1	0	0	2670
2007	31	385.3	0	0	91	0	0	0	6	0	0	8	0	1	1782	0	1	2	0	1	0	0	0	0	1	1893
2008																										0
2009																										0
2010																										0
2011	27	305.4	1	0	124	2	5	1	9	0	0	2	0	9	2554	0	0	1	1	1	0	4	10	0	0	2734
2012																										
2013	29	308.8	1	0	74	0	9	0	10	0	0	8	0	4	2216	0	3	0	1	0	8	7	4	1	0	2346
2014	28	290.8	0	0	52	0	0	0	2	0	0	4	0	2	1468	0	2	0	0	0	0	0	3	0	0	1533
TOTAL	518	5524	2	0	1979	11	41	14	197	0	0	83	0	48	44496	0	40	14	4	18	9	13	29	4	8	47010
Av 93-13	28.8	307.9	0.12	0	113	0.65	2.41	0.82	11.5	0	0	4.65	0	2.71	2531.1	0	2.24	0.82	0.24	1.06	0.53	0.76	1.53	0.24	0.47	2675.1
14 cf Av	-2.9	-5.53	-100		-54	-100	-100	-100	-83			-14		-26	-42		-11	-100	-100	-100	-100	-100	96.2	-100	-100	-42.69

TABLE5A																										
APRIL 1-22 SUMMARY TOTALS, MOUNT LORETTE 1993-2014 (all counts)																										
	days	hrs.	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ME	GY	PG	PR	UA	UB	UE	UF	UU	T
1993	21	189.5	1	3	60	1	30	17	31	0	0	24	0	2	948	0	4	0	2	4	0	0	2	0	1129	
1994	22	215	0	4	64	8	44	15	20	1	0	29	1	20	786	0	0	1	0	4	2	1	0	0	1000	
1995	20	194.9	0	4	72	0	30	5	10	0	0	27	2	11	490	1	7	0	3	4	0	0	0	0	666	
1996	22	237.9	0	4	128	7	25	3	9	1	0	17	0	8	1173	0	4	0	1	1	3	1	0	0	1385	
1997	22	209.8	0	2	103	4	15	5	11	0	0	17	0	11	234	2	5	0	0	1	2	1	0	1	0	414
1998	22	203	0	0	70	5	17	4	5	0	0	20	0	25	571	0	4	0	1	1	0	1	0	2	0	726
1999	21	223.8	0	0	60	9	7	2	3	0	0	44	0	14	245	1	3	0	0	1	1	1	0	0	0	391
2000	21	249	0	1	63	5	28	7	5	0	0	9	0	23	468	5	5	1	0	0	0	2	1	0	3	626
2001	19	223.1	0	1	100	4	29	6	17	0	0	27	1	20	571	2	3	1	1	0	0	0	1	0	1	785
2002	22	277.3	0	1	121	4	32	5	19	0	0	23	0	9	1455	2	4	2	0	1	3	1	0	1	4	1687
2003	21	258.4	0	1	66	5	8	4	6	0	0	23	0	10	503	1	3	2	0	0	4	1	1	0	3	641
2004	21	277.2	0	6	47	1	22	7	8	0	0	20	0	5	165	1	7	0	2	1	0	1	1	1	2	297
2005	22	309.6	0	1	61	2	12	1	18	0	0	12	0	7	275	0	3	0	0	0	1	1	1	0	3	398
2006	22	300.4	0	2	89	3	30	10	13	0	0	10	0	22	282	0	10	0	1	0	5	3	7	0	3	490
2007	19	237.3	0	1	98	3	32	6	13	0	0	37	0	13	269	1	12	1	1	1	1	0	0	0	2	491
2008	15	151	0	0	13	0	1	1	0	0	0	2	0	0	78	0	0	0	1	0	1	1	0	2	1	101
2009	13	160.6	0	0	40	0	1	5	2	0	0	6	0	1	198	0	1	0	0	0	1	1	0	0	0	256
2010	15	171.9	0	0	24	0	1	0	4	0	0	8	0	1	109	0	1	0	0	1	0	0	3	0	0	152
2011	21	250.7	0	1	68	3	36	7	8	0	0	43	0	31	428	1	4	0	1	1	1	2	3	0	0	638
2012	20	224.6	0	1	48	2	22	5	15	0	0	51	0	2	263	2	4	1	3	1	6	2	3	0	0	431
2013	20	226.7	0	0	30	2	8	1	3	0	0	10	0	23	173	0	4	0	0	1	2	3	0	0	1	261
2014	21	235.4	0	3	54	2	15	5	9	0	0	20	0	16	751	2	1	0	2	1	3	3	4	2	0	893
TOTAL	442	5027	1	36	1479	70	445	121	229	2	0	479	4	274	10435	21	89	9	19	24	36	26	25	11	23	13858
Av 93-13	20	228.2	0.05	1.57	67.9	3.24	20.5	5.52	10.5	0.1	0	21.9	0.19	12.3	461.14	0.9	4.19	0.43	0.81	1.1	1.57	1.1	1	0.43	1.1	617.38
14 cf Av	4.75	3.181	-100	90.9	-20	-38	-27	-9.5	-14	-100	0	-8.5	-100	30.2	62.856	121	-76	-100	147	-8.7	90.9	174	300	367	-100	44.643

TABLE5B																											
APRIL 1-22 SUMMARY TOTALS, MOUNT LORETTE 1993-2014, (excluding 2008-2010 and 2012)																											
	days	hrs.	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ME	GY	PG	PR	UA	UB	UE	UF	UU	T	
1993	21	189.5	1	3	60	1	30	17	31	0	0	24	0	2	948	0	4	0	2	4	0	0	2	0	1129		
1994	22	215	0	4	64	8	44	15	20	1	0	29	1	20	786	0	0	1	0	4	2	1	0	0	0	1000	
1995	20	194.9	0	4	72	0	30	5	10	0	0	27	2	11	490	1	7	0	3	4	0	0	0	0	0	666	
1996	22	237.9	0	4	128	7	25	3	9	1	0	17	0	8	1173	0	4	0	1	1	3	1	0	0	0	1385	
1997	22	209.8	0	2	103	4	15	5	11	0	0	17	0	11	234	2	5	0	0	1	2	1	0	1	0	414	
1998	22	203	0	0	70	5	17	4	5	0	0	20	0	25	571	0	4	0	1	1	0	1	0	2	0	726	
1999	21	223.8	0	0	60	9	7	2	3	0	0	44	0	14	245	1	3	0	0	1	1	1	0	0	0	391	
2000	21	249	0	1	63	5	28	7	5	0	0	9	0	23	468	5	5	1	0	0	0	2	1	0	3	626	
2001	19	223.1	0	1	100	4	29	6	17	0	0	27	1	20	571	2	3	1	1	0	0	0	1	0	1	785	
2002	22	277.3	0	1	121	4	32	5	19	0	0	23	0	9	1455	2	4	2	0	1	3	1	0	1	4	1687	
2003	21	258.4	0	1	66	5	8	4	6	0	0	23	0	10	503	1	3	2	0	0	4	1	1	0	3	641	
2004	21	277.2	0	6	47	1	22	7	8	0	0	20	0	5	165	1	7	0	2	1	0	1	1	1	2	297	
2005	22	309.6	0	1	61	2	12	1	18	0	0	12	0	7	275	0	3	0	0	0	1	1	1	0	3	398	
2006	22	300.4	0	2	89	3	30	10	13	0	0	10	0	22	282	0	10	0	1	0	5	3	7	0	3	490	
2007	19	237.3	0	1	98	3	32	6	13	0	0	37	0	13	269	1	12	1	1	1	1	0	0	0	2	491	
2008																											
2009																											
2010																											
2011	21	250.7	0	1	68	3	36	7	8	0	0	43	0	31	428	1	4	0	1	1	1	2	3	0	0	638	
2012	20	224.6	0	1	48	2	22	5	15	0	0	51	0	2	263	2	4	1	3	1	6	2	3	0	0	431	
2013	20	226.7	0	0	30	2	8	1	3	0	0	10	0	23	173	0	4	0	0	1	2	3	0	0	1	261	
2014	21	235.4	0	3	54	2	15	5	9	0	0	20	0	16	751	2	1	0	2	1	3	3	4	2	0	893	
TOTAL	399	4543	1	36	1402	70	442	115	223	2	0	463	4	272	10050	21	87	9	18	23	34	24	22	9	22	13349	
Av 93-13	21	239.3	0.06	1.83	74.9	3.78	23.7	6.11	11.9	0.11	0	24.6	0.22	14.2	516.61	1.06	4.78	0.5	0.89	1.22	1.72	1.17	1	0.39	1.22	692	
14 cf Av	0	-1.63	-100	63.6	-28	-47	-37	-18	-24	-100	0	-19	-100	12.5	45.37	89.5	-79	-100	125	-18	74.2	157	300	414	-100	29.046	

TABLE 6

MOUNT LORETTE, SPRING 2014

SUMMARY WEATHER

Day #			TEMP		RIDGE	WIND	CLOUD			PRECIPITATION & NOTES	% TIME		#	
			Max	Min	Direction	Velocity	Max%	Min%	type		RIDGES			migrant
											East	West		
1	Mar	1	-21	-21	NE	M-S	5	5	Ac	75-100 cm accumulated snow . Crystal fog			0	
2	Mar	2	-21	-31	N-NE ?	M	100	90	St	2 cm fresh snow	40	60	0	
	Mar	3	NO OBSERVATION							w ind chills up to 40C			0	
3	Mar	4	-14	-22	W	M	100	90	Cu	light snow all day	20	80	0	
4	Mar	5	-10	-13	NE	M	100	30	St,Cu,Cs	12 cm fresh snow . Ice fog to 1000	80	80	0	
5	Mar	6	-11	-15	W	M-S	100	40	St,Cu	5 cm fresh snow . Snow most of day	70	80	0	
6	Mar	7	6	-3	W	M-S	80	40	Ac	4 cm fresh snow .		10	4	
7	Mar	8	8	5	W	S-vS	100	20	Cu,As,Ci,Cs			20	0	
8	Mar	9	5.5	2	W	M-S	100	70	St,Cu	light-mod show ers, flurries by late pm	20	70	4	
9	Mar	10	5	-4	W-NW	M-S	100	50	As,Ci,Sc,Cu				0	
10	Mar	11	6	-12	W	S	100	0	Cs,As				0	
11	Mar	12	9	-2	W	M-S	60	0	As,Ci,Cu	Chinook arch to 1400			1	
12	Mar	13	6.5	0	NW-W	M-S	100	0	As,Ci,Ac,Cu,lent	almost cloudless to 1500			11	
13	Mar	14	6	1	W	S-vS	100	60	Ac,Sc,Cu				59	
14	Mar	15	5	-1	SW-W	M-S	100	30	Cu,As,Cs				19	
15	Mar	16	4	0	SSW	M-S	100	100	St	5cm fr. snow ; snow to 1200, then flurries	50	90	0	
16	Mar	17	2	-2	NW	M	100	50	Sc,Cu	snow to1200 (4 cm)	30	70	6	
17	Mar	18	2	-11	SW	M-S	80	0	Ci,Cu			10	211	
18	Mar	19	5	-2	NW-W	M-S	100	50	Cu,Ac,As,Ci			10	86	
	Mar	20	NO OBSERVATION				100	100	St,Ac,As	heavy snow all day	100	100	0	
	Mar	21	NO OBSERVATION				100	100	St	6 cm fresh snow ; flurries all day	100	100	0	
19	Mar	22	-7	-24	W	M	100	5	Cu,As,Ci,St	ice crystals in am, snow after 1700	20	40	211	
20	Mar	23	-7	-19	W-WSW	L-M	100	40	Cu,St	2 cm fr. snow , lt. snow 1200, snow 1800	30	70	56	
21	Mar	24	-6	-11	W	L-M	100	20	St,Cu,Ci	ice crystal haze to 1300	30	90	288	
22	Mar	25	6	-1.5	W ?	L-M	100	20	As,Cs,Ci,Cu	light snow at 1900	10	5	320	
23	Mar	26	-7.5	-11	?	?	100	100	St	10 cm fresh snow	90	100	6	
24	Mar	27	-6.5	-11	SE-E	L-M	100	50	St,Cu,Sc,	8 cm fresh snow ; light snow all day (3 cm)	90	100	49	
25	Mar	28	5	-16	W-SW	M	70	10	Cu,Ac,As,Ci	5 cm fresh snow		50	90	
26	Mar	29	5	-3	WSW	S	100	10	St,Cu,Ac	2 cm fresh snow ; flurries and snow in pm	30	80	53	
27	Mar	30	-6	-10	SSE	L-M	100	40	St	5 cm fresh snow ; light-mod snow (2cm)	80	100	17	
28	Mar	31	0	-9	W	M	90	50	Sc,Cu,Ci,Ac	6 cm fresh snow . Snow after 1800	10	60	42	
29	Apr	1	2.5	-9	?	?	100	10	St,Cu		40	40	380	
30	Apr	2	4	-13	NW	L-S	100	0	Cu,As,Ac,Ci		10	30	93	
31	Apr	3	5.5	2	W-SW	M-S	90	20	Cu,Ci,Ac	light snow after 1800	10	30	108	
32	Apr	4	6	0	W	M-S	100	20	Ac,Cu	occ snow flurries in pm		50	17	
33	Apr	5	5	0	SW-NW	M-S	90	20	Cu,Ac,Ci				18	
34	Apr	6	7	0	W-WNW	M-S	100	60	Cu,As			20	33	
35	Apr	7	10	1	W	S-vS	100	20	Sc,Cu,Ci,St				22	
36	Apr	8	13	8	SW	vS	100	30	Cu,Cs,Ci	light rain after 1700	20	20	27	
37	Apr	9	6	-2	SW-NW	S	70	20	Cu,As,Ci	1 cm fresh snow		30	4	
38	Apr	10	9	4	NW	S-vS	40	10	Cu,Ci,As,Cs				3	
39	Apr	11	8	4	WNW	S	100	50	Ac,Sc	cold front at 1545: snow and rain	10	30	8	
40	Apr	12	-2	-5	NE-NW	M	100	10	St,Cu,Ac,Ci	12 cm fresh snow . Light snow to 1330	50	70	3	
41	Apr	13	6	-13	NNW	M	50	0	Cu,As				9	
42	Apr	14	14	-3	W-NW	M-S	90	0	Ci,lent,Cu				25	
43	Apr	15	5	-14	?	L?	100	100	As,St	cold front at 1245: snow , heavy after 1300	50	70	4	
44	Apr	16	0	-4	?	?	100	100	St,Sc,Cu	25cm fresh snow ; occ light to heavy snow	100	100	3	
45	Apr	17	10	-2	W	M	100	70	St,Cu	8 cm fresh snow ; rain after 1830	30	30	46	
	Apr	18	NO OBSERVATION				100	100	St	wet snow for most of day	100	100	0	
46	Apr	19	9	3	SW	S-vS	60	10	Cu,As,Ci,lent				27	
47	Apr	20	9	0	W	M-S	100	60	Cu,As,Ci,lent			20	34	
48	Apr	21	13	3	W	M-S	100	80	St,Sc,Cu,Ci				16	
49	Apr	22	12	-3	?	?	100	50	Cu,As,Cs			30	13	

TABLE 7

Beaver Mines, Alberta, spring 2014

March 18-April 22 (17 days, 78.1 hours)

Date	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL
2014-03-18	1.83	0	0	2	0	0	0	0	0	0	0	0	0	82	0	0	0	0	0	0	0	0	0	0	84
2014-03-19	6.17	0	0	4	0	2	0	4	0	0	0	0	2	130	0	0	0	0	0	0	0	0	0	0	142
2014-03-20	NO OBSERVATION																							0	
2014-03-21	6.75	0	0	6	0	0	0	0	0	0	1	0	0	73	0	0	0	0	0	0	0	0	0	0	80
2014-03-22	NO OBSERVATION																							0	
2014-03-23	NO OBSERVATION																							0	
2014-03-24	1.5	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10
2014-03-25	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	0	0	5
2014-03-26	NO OBSERVATION																							0	
2014-03-27	NO OBSERVATION																							0	
2014-03-28	3.83	0	0	11	0	2	1	3	0	0	4	1	2	227	0	0	0	0	0	0	0	0	0	0	251
2014-03-29	4.58	0	0	16	0	1	0	0	0	0	13	1	1	75	0	0	0	0	0	2	0	0	0	0	109
2014-03-30	NO OBSERVATION																							0	
2014-03-31	NO OBSERVATION																							0	
March	25.66	0	0	39	0	5	1	7	0	0	18	2	5	601	0	0	0	0	0	2	1	0	0	0	681
2014-04-01	1.5	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
2014-04-02	7	0	0	23	0	4	1	2	1	0	13	0	4	145	0	0	0	0	0	1	2	0	0	0	196
2014-04-03	6	0	0	25	0	5	1	1	0	0	10	0	2	60	0	2	0	0	0	0	2	2	0	1	111
2014-04-04	7.25	0	0	3	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	7
2014-04-05	12	0	0	6	0	0	0	2	0	0	1	0	0	15	0	0	0	0	0	0	0	0	0	0	24
2014-04-06	5.25	0	0	4	0	0	1	0	0	0	10	0	0	6	0	0	0	0	0	0	0	0	0	0	21
2014-04-07	2	0	0	7	0	0	0	0	0	0	1	1	1	7	0	1	0	0	0	1	1	0	0	0	20
2014-04-08	4.5	0	0	3	0	2	1	0	0	0	1	0	0	11	0	0	0	0	0	0	0	0	0	0	18
2014-04-09	0.16	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2014-04-10	NO OBSERVATION																							0	
2014-04-11	NO OBSERVATION																							0	
2014-04-12	NO OBSERVATION																							0	
2014-04-13	NO OBSERVATION																							0	
2014-04-14	NO OBSERVATION																							0	
2014-04-15	NO OBSERVATION																							0	
2014-04-16	NO OBSERVATION																							0	
2014-04-17	6.75	0	0	0	0	0	0	0	0	0	7	0	0	3	0	0	0	0	0	0	0	0	0	0	10
2014-04-18	NO OBSERVATION																							0	
2014-04-19	NO OBSERVATION																							0	
2014-04-20	NO OBSERVATION																							0	
2014-04-21	NO OBSERVATION																							0	
2014-04-22	NO OBSERVATION																							0	
April	52.41	0	0	71	0	11	4	5	1	0	44	1	9	252	0	3	0	0	0	2	5	2	0	1	411
Total	78.07	0	0	110	0	16	5	12	1	0	62	3	14	853	0	3	0	0	0	4	6	2	0	1	1092
Date	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL

TABLE 8
Daily Count Numbers
Steeples, BC, spring 2014

March 01-April 22 (40 days, 142.3 hours)

Date	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL
2014-03-01	NO OBSERVATION																								no
2014-03-02	NO OBSERVATION																								no
2014-03-03	NO OBSERVATION																								no
2014-03-04	NO OBSERVATION																								no
2014-03-05	NO OBSERVATION																								no
2014-03-06	NO OBSERVATION																								no
2014-03-07	2.5	0	0	6	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	13
2014-03-08	3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-03-09	2.5	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
2014-03-10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-03-11	4	0	0	8	0	0	0	0	0	0	1	0	0	21	0	0	0	0	0	0	0	0	0	0	30
2014-03-12	4.5	0	0	6	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	22
2014-03-13	4.5	0	0	4	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	22
2014-03-14	NO OBSERVATION																								no
2014-03-15	4.5	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	15
2014-03-16	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-03-17	3	0	0	36	0	0	0	0	0	0	1	0	0	21	0	0	0	0	0	0	0	0	0	0	58
2014-03-18	4.5	0	0	11	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	44
2014-03-19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-03-20	NO OBSERVATION																								no
2014-03-21	2	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
2014-03-22	4.5	0	0	11	0	0	0	0	0	0	1	0	0	40	0	0	0	0	0	0	0	0	0	0	52
2014-03-23	6.5	0	0	11	0	0	0	0	0	0	0	0	0	34	1	0	0	0	0	0	0	0	0	0	46
2014-03-24	5	0	0	4	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	1	0	0	0	22
2014-03-25	4	0	0	8	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	16
2014-03-26	1	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2014-03-27	3.5	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
2014-03-28	NO OBSERVATION																								no
2014-03-29	6.5	0	0	5	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	21
2014-03-30	4	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
2014-03-31	3.5	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4
March	79	0	0	122	0	0	0	0	0	0	6	0	3	252	1	0	0	0	0	0	1	0	0	0	385
2014-04-01	3	0	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2014-04-02	3.25	0	0	1	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4
2014-04-03	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-04-04	3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-04-05	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-04-06	5	1	0	9	0	1	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	21
2014-04-07	3.5	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2014-04-08	2.5	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2014-04-09	1.5	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2014-04-10	3	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
2014-04-11	NO OBSERVATION																								no
2014-04-12	4	0	0	0	0	0	0	0	0	0	3	0	0	4	0	0	0	0	0	0	0	0	0	0	7
2014-04-13	7	2	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	7
2014-04-14	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-04-15	NO OBSERVATION																								no
2014-04-16	3	3	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	6
2014-04-17	NO OBSERVATION																								no
2014-04-18	1.5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2014-04-19	4.5	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
2014-04-20	5.5	2	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
2014-04-21	2.5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2014-04-22	NO OBSERVATION																								no
April	63.25	14	3	18	0	5	0	0	0	0	8	0	1	23	3	0	0	0	0	0	0	0	0	0	75
Total	142.3	14	3	140	0	5	0	0	0	0	14	0	4	275	4	0	0	0	0	0	1	0	0	0	460
Date	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL

TABLE 9

Steeple, BC, Spring Count Summaries, 2010-2012

YEAR	DAYS	HRS	TV	OS	BE	NH	SS	CH	NG	BW	SW	RT	FH	RL	GE	AK	ML	GY	PG	PR	UA	UB	UE	UF	UU	TOTAL
2010	48	213.5	13	2	218	2	7	0	8	0	0	20	0	7	534	2	0	0	1	0	0	0	2	0	0	816
2011	28	118.5	12	0	147	1	5	0	2	0	0	7	0	2	395	0	0	0	0	0	0	0	2	0	0	573
2012	32	98.5	9	2	112	1	7	0	2	0	0	11	0	7	236	1	0	0	1	0	0	0	4	0	0	393
2013	25	83	1	1	113	0	1	0	1	0	0	7	0	3	230	0	0	0	2	0	0	1	3	0	0	363
2014	40	142.3	14	3	140	0	5	0	0	0	0	14	0	4	275	4	0	0	0	0	0	1	0	0	0	460
TOTALS	173	655.8	49	8	730	4	25	0	13	0	0	59	0	23	1670	7	0	0	4	0	0	2	11	0	0	2605

